

## **APPENDIX C**

### **National Security Test Range Environmental Assessment**

#### **Response to Comments**

The formal comment period for the National Security Test Range Environmental Assessment ended on January 12, 2007. The DOE received numerous comments from at least seven interested parties and groups that collectively numbered seventeen pages. Because of the similar nature or subject matter of many of the comments, a decision was made to evaluate, consolidate and group the comments according to subject or concern and provide answers appropriate to the grouping. The comments have been reprinted verbatim as received by the DOE. The following pages contain DOE's responses to the various comments. This document is being prepared as an attachment to the EA and will be provided to those individuals and groups who provided comments. It will also be available on line and to other interested parties upon request.

Comments have been organized in the following categories:

Purpose and Need

Alternative Selection

NEPA Process

Additional Information/Technical Edits

Analysis Related

Flora and Fauna

Soil

Air

Water

Cultural Protection

#### **Purpose and Need**

##### **Comments:**

The draft EIS should more clearly explain why the testing has fallen to the DOE and its premier nuclear power research facility

The draft EIS should describe in detail what research and testing and real-world improvements have already occurred. The draft EIS, by the same token, should describe in detail what research and testing would lead to additional, identified real-world improvements.

The draft EIS should explain the nearly direct relationship of explosive size and test frequency. Why do smaller explosives require so much more testing (particularly in light of the draft EA's assertion that "adversaries have shown their willingness and ability to use ever larger quantities of explosive materials")?

Without the "Need" for consolidation of the existing test ranges, new identified testing for Homeland Security could be provided at other sites such as the Nevada Test Site (NTS).

**Response:**

The primary purpose of conducting this type of research and testing is to meet DOE requirements for ensuring security of its facilities. The DOE has multiple requirements it must meet to perform its defined missions. In order to accomplish those missions, it relies on its national laboratories and other sites to perform a wide variety of tasks. Very few laboratories or sites within the DOE complex are focused on a single mission requirement. INL, throughout its history, has supported a variety of DOE missions, nuclear power, renewable energy such as geothermal and hydro power, basic scientific research such as subsurface science and national security in areas such as nuclear nonproliferation and weapons of mass destruction detection.

One of the key requirements which DOE has is the protection of its facilities and other assets. In order to protect these assets, DOE must understand potential threats, either natural or human, and design and implement the mitigations to prevent or mitigate against possible occurrences. Over the years the INL, through this type of research and testing, has developed designs for more robust walls, doors, and sensors for Special Nuclear Material vaults. It has performed analyses of numerous DOE buildings, including the DOE Headquarters building in Washington D.C., to help determine placement of barriers to keep an explosive-laden vehicle detonation at a sufficient distance to prevent catastrophic failure of the building. The research and testing that would be conducted at the proposed National Security Test Range will support DOE in continuing to understand the effects of explosions against the various security systems and measures DOE has in place to protect its own assets. As stated in the EA, these activities have been performed at the INL for a number of years and the INL has developed significant expertise in this area.

Development of any new or improved systems, begins with testing of the concepts. Normal practice is to conduct a number of small scale tests, looking at performance of individual parts of an overall system, scale models of the system and measuring how the system works. In the case of a wind driven electrical generator, one might test the tower and blades at a 1/10 or 1/5 scale in a small wind tunnel to see if the blade design is correct for the tower size being used. As confidence is gained that the design is appropriate, larger scale tests would be conducted, perhaps at 1/4 or 1/2 scale, and usually culminates in full scale tests. In designing more effective security and protective systems, the same basic process is used. A number of small scale tests are conducted, performance is measured and improvements can be made. As systems design matures, fewer larger scale tests are performed. This is why the number of small tests is higher than larger scale test planned at the proposed test range.

**Comment:**

The need to consolidate the three locations where explosive detonation activities are currently conducted has not been made clear. The document states that: 1. *Research and development work on detection of trace amounts of explosives is expected to remain at the Central Facilities area.* As such, at least one of the three current ranges will have to remain open. 2 *Consolidation of three locations into one location will relieve the scheduling conflicts resulting from having three sites.* This statement is counterintuitive. Independent ranges would appear to result in less scheduling problems than having all of the range activities use the same area. 3. *Consolidation will allow for the installation of semi permanent infrastructure,* The implication is that there is no infrastructure now at any of the existing facilities, and that after new road construction, water wells, waste systems,. and the construction of semi-permanent infrastructure and, consolidation of all the test ranges at the new test range, there will be improvements in cost and quality This is nothing that supports this assertion in the document,

**Response:**

The proposed action does not consolidate the locations, but rather the National Security testing activities. As identified in the EA, the Live Fire Range (LFR) and the Mass Detonation Area (MDA) have primary uses not associated with National Security testing activities that would continue to be performed at those locations. For the LFR, the primary use is to support training of the INL Protective Force. For the MDA, the primary use is for detonation of unexploded ordnance. In addition, each of these locations is in close proximity to other facilities and would not be able to accommodate the larger explosive quantities. The proposed Test Range would be dedicated to supporting the National Security system testing and therefore would not contend with other priority uses. The semi-permanent infrastructure discussed in the EA refers to testing and data gathering equipment that cannot be semi-permanently installed at the LFR or MDA because of their primary uses.

**Comments:**

The INL currently performs other important missions, such as nuclear energy research and development, and INL maintains valuable undisturbed sagebrush steppe and grassland habitat as a national environmental research park. Should DOE chose to proceed with its preferred alternative, DOE should manage the security test range in a way that appropriately balances these other interests.

Given conceptual proposals to construct new nuclear facilities at the site formerly proposed for the New Production Reactor, it would be helpful for DOE to provide data regarding potential impacts at that location in addition to facilities already included in the draft EA.

**Response:**

DOE agrees that there are a range of interests that must be balanced in managing the activities conducted at the INL. While we understand and agree that there will be some environmental impact from the development of the Test Range, we are minimizing the impact by selecting a site close to an existing road, in a previously burned area and through the administrative controls specified in

Table 1 of the EA. The site was also chosen in order to provide as much physical separation as possible from facility locations and other activities being conducted at the INL. Sites for any new nuclear facilities have not been selected, therefore specific analyses cannot be performed. The strategy for the INL is to use existing facility areas, such as the Materials and Fuels Complex and the Reactor Technology Complex to house the nuclear research activities. The most likely scenario for other conceived nuclear research activities related to GNEP or NGNP would be in close proximity to existing nuclear facilities. INL/EXT-06-11753 “Ground Motion and Noise Levels at Critical Locations On and Near the Idaho National Laboratory Site Due to Explosive Activities at the National and Homeland Security Research and Development Range” indicates that there will be no impact to any existing facilities from activities at the new range.

**Comment:**

What entity sets NEW limits? What criteria does that entity use? Is the process for both establishing criteria and setting explosives limits transparent? Is the public invited to participate? Will explosives be stored at INL? Where, for how long, and in what quantities?

**Response:**

The need for 20,000 lb. NEW limit in this EA was identified first by examining historical data from previous incidents and then determining the likely upper bound for the amount of explosives that could be assembled in a large six wheeled type truck. These are the types of vehicles most likely to be used in historical and hypothesized future attacks. For purposes of determining the appropriateness of that charge weight for testing at the INL, this EA provides the process for setting the NEW limits. Explosives are currently stored at the INL in magazines specifically designed for such storage and with attendant security systems such as entry alarms. The explosives currently stored are used for a range of purposes, such as the testing identified in the EA as currently being performed. The quantities currently stored are significantly less than 20,000 lbs. and even with the proposed consolidation testing activities, the quantity stored will not rise significantly. For large scale tests involving multiple thousands of pounds, the explosives will be delivered either the day before or day of the test. INL protective forces will be used to ensure security of the explosives until the test is conducted.

## **Alternative Selection**

**Comments:**

If there are benefits to performing this work at a non-weapons testing site such as the INL, DOE should state them.

The DOE has not adequately documented the rationale for the selection of the INL as the preferred alternative for this proposed site. The Draft EA lists certain site requirements that needs to be accomplished, and then declare the preferred site location at the INL, because it is the only site to fulfill these accomplishments. One of the “accomplishments” that was identified was:

“ Be readily accessible on a continuing basis to INL personnel for their unique expertise to conduct cost-effective, secure and timely testing.”

The Draft EA does not explain why INL staff need to be stationed there. The draft EIS needs to explain why DOE staff couldn't be available at another location to carry out these tests. The equipment needed could be located elsewhere and the requisite staff could either travel, or permanently re-locate.

The INL gives the impression that if they were to use another off site then they would have to conduct tests and travel back and forth. The whole program could be moved to that test site until the tests are complete.

There are already established testing ranges in the west that can facilitate and handle the types of explosions proposed

The primary reason the DOE offers in the draft EA for consolidating explosives testing at INL is to save time and money. The draft EA repeatedly refers to the overly burdensome time and expense related to conducting such explosives tests at any site other than INL. The federal government should not make such decisions based solely on what will be the fastest and cheapest, but rather what is the safest and most responsible action to protect the health of our people and environment. Does the federal government ever transfer employees from one place to another?

It appears as if the “Need” statement has been constructed to eliminate other suitable federal facilities from consideration that would pose a considerably lesser impact on the environment.

**Response:**

As a matter of clarification, the activities analyzed by this EA are not to perform testing as to the effectiveness of explosives themselves. The testing now performed and planned to be performed will test the effects that explosives have on the security systems used to protect DOE facilities. The criteria that were developed to guide alternative selection were based primarily on three factors: Safety, accessibility and the need to meet DOE mission requirements. Accessibility is a factor because INL has a cadre of personnel who have developed unique expertise in the field of understanding the effects of explosions on security systems and structures. That expertise is not found at other DOE laboratories. INL personnel are not employees of the federal government. They are employees of the entity that manages the INL, Battelle Energy Alliance. As such DOE cannot reassign them, nor may DOE direct that they be separated from employment at INL and reemployed at a different DOE laboratory. Each laboratory is managed by a different entity. Temporary assignment of INL personnel to other locations is possible, however it does come with considerable extra expense to the taxpayer. These include costs associated with travel fares, lodging, meals, rental cars or other modes of transport at the temporary duty station, etc. Part of meeting DOE's mission requirements, understanding the effects explosives have on security systems used to protect its' facilities, is to do so in a cost effective fashion. Any activities undertaken by DOE need to be conducted in a safe manner.

### **Comments:**

The EA makes no reference to a process for selecting possible alternative sites and the Nature Conservancy feels that multiple sites within the INL would meet the spatial needs of the new test range. We believe that alternative sites may exist that would have fewer environmental impacts with respect to wildlife habitat.

We question why you chose a burn site which exhibits native re-growth rather than one that is relatively void of native vegetation.

In summary, the Nature Conservancy is pleased to read the detail with which this site was analyzed for its ecological value, yet we are confused that some of the findings did not prompt the consideration of alternative sites within the INL boundary. It seems inadequate that there are multiple alternatives to whether or not to site the test range at the INL, but few about where to site it.

Due to the pristine nature of this immediate area, the preferred alternative is unacceptable.

Alternative 3 would be best suited to protect cultural resources, and to maintain the flora and fauna of the area, which has just recently replenished itself in the area.

ALTERNATIVES CONSIDERED Page 5, does not provide a reasonable list of alternative because it unnecessarily ties the conduct of new Homeland Security testing to the relocation of existing test work at three existing INL ranges. Only one location on INL Was evaluated which considered, the ease of access in selecting the location, but not the potential impact on the environment

Finally, it seems that the EA's response to the no action alternative is over-stated; "The no action alternative would not provide the DOE the data necessary to enhance protection of the human environment from security threats (p 32)." Since there are already established locations (LFR, MDA, or the Nevada Test Site) to conduct blast tests in any of the stated magnitudes, it seems that should the DOE (a federal agency) require specific blast information, it could in fact be obtained. It appears this newly proposed facility simply allows a convenient test area at the INL.

### **Response:**

The criteria provided in Section 2 were used to provide an initial identification of prospective sites. Given those criteria, in particular the need to provide sufficient distance from the testing location to eliminate damage, disturbance, or injury by ground or air transmitted shock pressure and projectile fragments to buildings, structures, or the public for large scale tests, the central area of the INL was to only area suitable for use as a test range. The specific location on the INL was chosen to:

1. Be away from a known archeological site.
2. Minimize impact to the Sagebrush Steppe.
3. Remain in the 1999 burned area to eliminate loss of any existing sagebrush.
4. Reduce the impact to the environment by reducing the amount of new road construction.

The site selected for the range was the best compromise of all of these requirements.

**Comment:**

I think that conventional explosives testing should not be conducted at the Idaho National Laboratory or any other nuclear, chemical, or biological warfare facility requiring high security. If these facilities were harmed, it could cause disastrous damage to both the environment and people living nearby. This type of testing and the associated personnel should be moved to a more appropriate location without facilities requiring high security. The alternatives analysis needs to be rethought. It makes more sense to transfer personnel to existing test sites if needed, than to create a new site.

**Response:**

INL does not conduct research concerning the development of nuclear, chemical or biological warfare agent or weapons. The INL does conduct research concerning the application of nuclear energy to production of electric power and similar uses. Because of this research, the INL stores nuclear materials. The INL maintains a highly trained and effective protective force to ensure that these materials are safe and secure from theft or diversion. As stated in the EA, the location of the proposed Test Range has been chosen to ensure that it is located in an area that would prevent damage to any existing facilities at the INL or to the general public.

**Comments:**

The project could be carried out at other locations, with Department of Defense (DOD) staff. The presence of radioactive contaminants at the site should make the INL *less favorable* than other sites. Even if the proposed site is not presently contaminated with radionuclides, releases of radionuclides are frequently, if not continually, occurring at the INL (including Cesium 137 at the range site), and it increases the risks to the environment and human health by selecting a site that is vulnerable to radiation contamination, when added to the risks arising from the contamination of the explosive charges themselves.

The next phase of the NEPA document should delete the above referenced “accomplishment” that INL staff must be available and *add* the following needed accomplishments:

The preferred alternative or alternatives must accomplish the following:

- Provide a land area whose soils are not contaminated with RCRA or radionuclides, and is not in close proximity to locations where the release of these contaminants have historically occurred, or are likely to recur.
- Provide a land area that is not within or near a current order under CERCLA or RCRA acts for clean-up of soil contaminants.
- Locate the testing range at a site where munitions and explosive residual chemicals may be cleaned up without leaving the site contaminated, or require CERCLA or RCRA actions to remediate.

**Response:**

The testing that is the subject of this EA supports DOE mission requirement for evaluating the security of its facilities and therefore it is the responsibility of DOE to perform the work rather than

DoD. The proposed Test Range does not contain any RCRA or CERCLA hazardous materials. While environmental cleanup activities are being performed at the INL under CERCLA, the areas subject to cleanup requirements are located a number of miles from the Test Range and would not be affected by this testing. The radionuclides found at the Test Range (Cesium-137) are from deposition associated with above ground nuclear weapons testing in the 1950's and 1960's. These levels of Cesium-137 would be found at any location throughout the western U.S., and would in fact be higher in the eastern U.S. As stated in the EA, explosive residues will be removed following testing events and there is no intent to contaminate the site to require remedial actions under either RCRA or CERCLA.

**Comments:**

Page 3, 2. Alternatives; 2nd Paragraph, 3rd bullet-Cultural Resources needs to be included in the list of items that are believed to be located away from the test range.

The required "accomplishments" listed on page 3, should have entries in it to protect or minimize impacts to the environment. Please add the following required accomplishment to the preferred alternative in the next phase of the NEPA process:

- Provide a site with the least damage to ethnobotanical plant species, and if a site is selected at the INL, provide a mitigation plan negotiated with the Shoshone-Bannock Tribes.
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**Response:**

The EA analyzes all of the reasonably foreseeable environmental and cultural impacts of the proposed action, including damage to flora and fauna of all types. Different techniques for reducing or eliminating these damages have been discussed in various places in the final document. Activities to reduce or eliminate impacts would be carried out on an as-appropriate basis, factoring in the concerns of interested parties including the U.S. Fish & Wildlife Service, the Tribes, B.L.M, the state of Idaho and others.

**Comment:**

The method of selection of a preferred alternative in the draft is unscientifically biased...leaving out several critical issues of importance to protect cultural resources human health and the environment. The DOE in this EA may not have properly followed DOE orders with respect to consideration of the Shoshone-Bannock Tribes, in this process.

**Response:**

The DOE orders applicable to the NEPA process have been followed for this EA. The NEPA process requires inclusion of reasonable alternatives in the evaluation of environmental impacts. The Tribes have participated or had the opportunity to participate in cultural and ecological surveys of the proposed test range area. They have also participated by providing comments which DOE has considered during revision to the final version of the EA. DOE attempted to meet with the Tribal Council, however, the Tribes were unable to schedule a meeting due to timing and confirmed with



the DOE-ID Tribal Liaison that they had been involved frequently during the process and had provided technical comments and concerns.

## **NEPA Process**

### **Comment:**

In closing we would like prefer the alternative to consolidate work at an off site facility or the no alternative option for the protection of the environment.

### **Response:**

As discussed in the EA, consolidating work at off-site facilities does not meet the criteria used to determine if an alternative is reasonable. We acknowledge your alternative preferences.

### **Comments:**

EIS is required

because of the serious flaws in the draft Environmental Assessment discussed below and the serious environmental impacts it has not addressed, the Alliance respectfully suggests that the Department of Energy proceed to a full Environmental Impact Statement.

The draft EA fails to recognize the strong possibility of contamination of the site by chemicals that are present in the explosives. The NEPA process needs to advance to a full Environmental Impact Statement (EIS) because of the seriousness of the impacts to the INL environment posed by this project.

Moreover, will the removal of this habitat affect migration of elk or other species. It seems only that various agency investigation and the information obtained through an EIS process could answer these questions.

Given the number of questions raised that may lead to greater impacts to wildlife, air and water quality than what has been identified by the EA, I feel it would be prudent to answer the questions in an Environmental Impact Statement process.

Test range does significantly affect the quality of the pristine desert ecosystem a detailed analysis of the adverse environmental impact from implementing the test range is needed.

### **Response:**

When DOE was considering the need for consolidating testing activities at the INL, one of the issues evaluated was whether any NEPA documentation was required due to the fact that the proposed action actually fit into Categorical Exclusion B3.11 of 10 CFR Part 1021.410 Appendix B. Because

some of the hypothetical impacts were not thoroughly researched, DOE elected to prepare an Environmental Assessment to more fully analyze the data. Based upon these thorough analyses, as documented in the EA, both the long- and short-term potential impacts are not of the magnitude that would require the preparation of an EIS.

## **Additional Information/Technical Edits**

### **Comment:**

DOE should also clarify that it must manage storage and transport of explosives associated with the security test range in compliance with applicable INL procedures and best management practices.

### **Response:**

Section 4.1.5 of the EA has been modified with the following: Explosives used at the test range would be delivered to the INL in commerce by a private carrier. While in commerce, all shipments are covered by Department of Transportation Regulations for the shipment of hazardous materials. Once the INL takes possession of the material it is covered by Laboratory Wide Procedure (LWP) 14201 “Explosive Safety”. This document covers procurement, transportation, security, storage and handling of explosives. Plan (PLN) 14201 “Transportation Plan for the Movement of Explosive Materials within the Boundaries of the Idaho National Laboratory” covers the requirements of movement of explosives out of commerce within the boundaries of the INL but not on public roads. The INL follows DOT regulations for movement of explosives on the public roads within the INL boundaries.

### **Comment:**

DOE must also assess these activities in conjunction with the storage and transport of radiological materials associated with other unrelated INL operations to meet the Design Basis Threat and other security requirements.

### **Response:**

PLN-14201 addresses movement of explosives on the INL. This document requires notification be made to the Warning Communication Center which coordinates all movement of hazardous materials at the INL.

### **Comment:**

DOE should also clarify how the proposal compares to and may affect current and future use of the Mass Detonation Area and Live Fire Range.

**Response:**

Section 1 of the EA has been modified with the following: The Mass Detonation area will still be used for its original purpose of disposing of unexploded ordinance found on the INL. The Live Fire Range will still be used to train and qualify the protective force. The security systems testing and research work that is now being conducted at these two facilities will be moved to the new NSTR.

**Comment:**

DOE should provide better comparison information for noise impacts for public access areas to better represent what a member of the public could expect to hear. DOE should include some publicly accessible locations and populated areas, such as Idaho Falls, Atomic City, and the Big Lost Rest Area)

**Response:**

Section 4.1.5 of the EA has been modified with the following: Table 8 lists the maximum predicted noise levels at the Big Lost River Rest Area on U.S. Highway 20 and at Atomic City.

Table 8. Maximum Predicted Noise Levels at Select Locations

Site	Distance	noises level (dB)						
		100 Lbs	500 Lbs	1000 Lbs	5000 Lbs	10000 Lbs	15000 Lbs	20000 Lbs
Atomic City	19 miles	109	114	117	122	124	125	126
Big Lost River Rest Area on U.S. Hwy 20	19 miles	109	114	117	122	124	125	126

**Comment:**

To help give numbers some context, DOE should also provide some recognizable comparisons of decibel ratings, such as automobile horn (110 decibels at 3 feet). Although decibel levels are included for a range of explosive charge weights in the Ground Motion and Noise Levels reference document, it would be helpful to have the decibel information for more frequent tests (i.e., lower explosive charge weights) more readily available to better gauge the potential impacts.

**Response:**

Section 4.1.5 of the EA has been modified with the following:

For comparison purposes, the following provides the noise levels associated with several commonly understood items:

65 dB Normal Conversation  
125 dB Chain Saw  
140 dB Air Raid Siren (100 ft.), Jet Engine  
145 dB Jet Take off (100 ft.)

## 170 dB Discharge of 30.06 Hunting Rifle

### **Comments:**

Table 1. Left column under 'proposed construction and operational activities...' Please clarify what constitutes "favorable" weather conditions.

DOE should clarify how it is accounting for reflective impact of cloud cover in determining acceptable test weather conditions.

### **Response:**

Based on ANSI S2.20-1983, it was documented that temperature inversions and wind conditions can cause focusing of air blast and noise. Section 5.3.1 states that for temperature inversions, "incident pressure amplitudes may be enhanced above standard values by factors of two to three". Presently, there is insufficient data available to accurately and quickly predict the exact increase in pressure and its location caused by these environmental conditions. However, based on the available information, INL Subject Matter Experts (SME's) have developed a table of acceptable environmental conditions for various charge weights.

### **Comment:**

DOE should explain why it chose 140 decibels as the level for evacuation of all nonessential test personnel to locations outside this sound range.

### **Response:**

140 dB is the OSHA standard for unprotected people subjected to impulse noises. It can be found at 29 CFR 1910.95 (b)(2) in the footnote to Table G-16.

### **Comment:**

DOE should provide a range of potential visibility impacts such as dust clouds for the range of tests and acceptable weather conditions.

### **Response:**

Presently, there is no quantifiable data relating the amount of airborne dust produced by different charge weights. The calculations used in the EA overestimate the expected airborne dust because it was assumed that all of the PM-10 sized particles for the entire crater volume would become airborne.

### **Comment:**

DOE should identify the location of the nearest INL employee not involved in Test Range activities.

**Response:**

The nearest INL employee not involved in Test Range activities will be located at the MFC, which is approximately 7 miles from the proposed Test Range.

**Comments:**

The concept of the “safety fan” is unclear. DOE should explain the purpose and of the safety fan and the basis for its configuration. DOE should explain what types of projectiles will be used and how they will be recovered. If projectiles involve explosives, DOE should explain how unexploded ordnance will be addressed.

Could not find a discussion of the purpose or characteristics of the "8,750 yard safety fan."

**Response:**

Section 2.1 has been modified as follows: Testing would also entail firing of non-explosive projectiles into different test media to understand their effectiveness in resisting fragment penetration. While the projectiles would normally be stopped by the test specimen, an earthen berm will be constructed to stop any projectile that might penetrate the test specimen. As a further safety measure, an 8,750 yard ‘safety fan’ will be established behind the berm to ensure no personnel would be injured.

Table 1 states that test articles and debris from testing will be removed from the test area on a routine basis.

**Comment:**

DOE should explain its schedule and plans for remediation of detonation holes. DOE should also clarify its plans for treatment or disposal of test articles and debris, both while the range is operational and after its mission is complete.

**Response:**

Any crater from testing will be filled-in using the crater lip material. If over a period of time additional material is needed, material will be brought in from an established borrow pit. Test articles will be disposed of in accordance with applicable laws and regulations.

**Comments:**

Table 1. Right column under 'operational personnel or activities would...': It is stated that the INL would arrange for breeding bird surveys before each experiment exceeding 100 lb new during the months February through June... Please describe what the follow-up will be when the breeding bird surveys are completed? What will the INL do if breeding birds are identified?

Page 26, Breeding Seasons. Please clarify what the breeding bird survey information will lead to.

There are references made in a few spots to "unavoidable loss of ground-dwelling wildlife species" and potential "loss of eggs or nestling birds". As you are aware, take (including harm, harassment, and mortality) under the Migratory Bird Treaty Act is prohibited and there is no "permitting" of incidental take as there is with the Endangered Species Act. The Service suggests providing language in the EA that addresses the need for the proposed activities as related to the potential 'take' of migratory birds, as well as any minimization or mitigation activities, where feasible, that will be conducted to limit 'take'.

**Response:**

These comments were provided in response to the version of the EA released in September, 2006, which was subsequently withdrawn. The subsequent version of the EA, released in December, includes actions taken to reduce or eliminate impacts on breeding bird. The U.S. Fish & Wildlife Service did not have comments regarding those actions in the revised version found in section 4.1.1.3 of the EA.

**Comment:**

Table 1. Right column under 'proposed construction and operational controls...' It is stated that explosive tests would be avoided until consulting with Fish and Wildlife Service regarding breeding birds and migrating birds. Please clarify the level of consultation expected and the frequency, as according to Table 1 events could occur as often as weekly.

**Response:**

Table 1 of the EA has been modified as follows: If any breeding birds are discovered during any survey, the local Fish & Wildlife Service office will be consulted upon discovery of a nesting site.

**Comment:**

The Service recalls that during our August 8, 2006 meeting (via conference call) it was stated that there would be information provided in the EA related to disturbance (i.e., anticipated noise and shock wave distances traveled) following detonations; however, we did not see that information during our review. Please provide that information if available.

**Response:**

Table 3 contains information concerning sound levels and ground movement from the maximum event of 20,000 lbs NEW at selected points of interest. The source document for this information, INL/EXT-06-11753 "Ground Motion and Noise Levels at Critical Locations On and Near the Idaho National Laboratory Site Due to Explosive Activities at the National and Homeland Security Research and Development Range" is in the administrative record and covers this information.

**Comment:**

The EA refers to past and ongoing explosives testing at the LFR and MDA, but does not refer to any past assessments of the environmental impact of this testing. The DOE should provide the public with access to such documents. If such assessments have been completed, the DOE should disclose the location of these documents and discuss their conclusions in the draft EIS.

**Response:**

This comment does not address the proposed project that is the subject of this EA.

**Comment:**

The only reference to security of the test material is that “all personnel involved with construction and operations, including those handling explosives, would be properly trained, use appropriate protective equipment and maintain close communication with one another.” The draft EA should provide additional details.

**Response:**

In addition to Table 1, Proposed Construction and Operational Controls, which identifies controls that will be implemented to ensure safe conduct of test operations, the security of explosive materials is addressed in Section 4.1.7, Impacts Due To Intentional Destructive Acts, in the Final EA.

**Comments:**

Section 6 discusses expected impacts from, among other things, ground shock and air blast. Numbers are provided for ground motion and sound level at different locations around INL. It would be helpful to understand how these numbers were derived, and what models were used in their calculations. 20,000 lb TNT equivalent is a huge explosion and there are a number of sensitive operations on INL. This program could potentially have a large public perception problem information needs to be included in the EA to adequately understand and address technical issues.

Noise levels will exist at NRF from the proposed test program. Advanced notification needs to be provided to NRF so that workers can be appropriately informed as to the cause.

**Response:**

INL/EXT-06-11753 “Ground Motion and Noise Levels at Critical Locations On and Near the Idaho National Laboratory Site Due to Explosive Activities at the National and Homeland Security Research and Development Range” indicates that there would be no impact to any existing facilities from activities at the new range. Table 1 states that INL personnel who may be effected will be notified. There are multiple processes that can be used to provide notifications. Examples include having the Warning Communications Center issue pager notifications of impending tests, dissemination of information through “plan of the day” meetings which are held at facilities each day to discuss activities being conducted across the INL, use of daily internal communications

venues. All local law enforcement would be notified in advance for any tests using over 3000 lbs Net Explosive Weight.

**Comment:**

In the document there is a statement that addresses the programmatic needs of requiring the routine tests from March to November time frame, what is significant of this time frame?

**Response:**

Weather conditions are more favorable to outdoor activities.

**Comment:**

To our knowledge an archaeological report was completed on the project but was not available for the Tribes to review? We would like to have this document for the Tribes to review and comment.

**Response:**

The cultural resource surveys are documented in INL/EXT-06-11517 "Cultural Resource Assessment of the National and Homeland Security Research and Development Range at the Idaho National Laboratory". This document is part of the file for record. It was provided to the Heritage Tribal Office on February 14, 2007.

**Comment:**

There is a concern from the Tribes on where the explosives will be stored at the INL and will they be transported through the Fort Hall Reservation as they are transferred to the INL. Also what method of transportation will it be such as rail or the truck on the *I-15* corridor?

**Response:**

All explosives on the INL are stored in existing magazines. Explosives delivered to the INL are brought "in commerce" by private carrier. While in commerce, the private carrier is responsible for complying with state and federal transportation regulations. DOE does not have control over routes used by these private carriers.

**Comments:**

EA does not address the construction of the earthen berm how many cubic yards of excavation will be needed to build berm?

The area of excavation is not designated on any map of the project area. Archaeological monitors need to be present to identify any cultural resources unearthed during excavation of berm material.



**Response:**

The exact volume of material needed to construct the berm will be determined at the time of construction. Soil needed to construct the berm will be excavated from the area immediately behind the berm location. As described in Table 1 under proposed construction controls, if any unusual items are discovered, work will be halted and the Cultural Resource Management staff will be contacted.

**Comment:**

Page 12 last paragraph refers to Figure 3 but this figure is titled Figure 33. On page 19 the third paragraph is a single sentence

**Response:**

This has been corrected.

**Comment:**

Also the last sentence on page 25 is not grammatically correct.

**Response:**

This has been corrected.

**Comment:**

Section 6.4 (p 36) first sentence “The INL would comply with NHPA... Change the word would to must comply with...

**Response:**

Future tense is used throughout the document to reflect the fact that the EA is a planning document. We agree that if the National Security Test Range is established on the INL site, the activity must comply with the NHPA.

**Comment:**

Figure 44 (correct titled to Figure 4 on page 18) of the EA

**Response:**

This has been corrected.

**Comment:**

The specification the limit of a net explosive weight of 20,000 tons should be explained. From the context it could have as easily called for 100,000 tons, or 1,000,000 tons. The other test areas mentioned had limits of 100, 500, and even 2,000 tons. Is this a case of "it's a new facility, let's go for really big numbers?". Or is there some rational, justifiable basis for it?

**Response:**

The selection of 20,000 lbs is based on a review of historic data concerning attacks against US facilities. An excerpt of the historic data of previous incidents is shown below:

<b>Year</b>	<b>Location / Target</b>	<b>Device Explosive Weight in kg (lbs)</b>	<b>Explosive Used</b>
1983	Lebanon – US Embassy	907.18 (2,000)	Military Grade
1983	Lebanon – US Marine Barracks	5,443.11 (12,000)	Military Grade
1983	Kuwait – US Embassy	1,814.37 (4,000)	Military Grade
1984	Lebanon – US Embassy Annex	907.18 (2,000)	Military Grade
1985	Chile – US Embassy	29.48 (65)	Dynamite
1985	W Germany-Rhein Main AB	Unknown	Homemade
1985	W Germany-PX Frankfurt	Unknown	Unknown
1988	Italy-USO Club	18.14 (40)	Dynamite
1992	Peru-US Ambassador's Residence	49.90 (110)	Dynamite
1993	U.S. World Trade Center	544.31 (1,200)	Urea Nitrate
1993	Peru-US Embassy	181.44 (400)	ANFO*
1995	US Federal Building	2177.24 (4,800)	ANFO
1995	Saudi Arabia-OPM Sang	226.80 (500)	Military Grade
1996	Saudi Arabia-US Military Barracks	2,267.96 – 9,071.85 (5,000 – 20,000)	Military Grade
1998	Kenya-US Embassy	~793.79 (~1,750)	TNT
1998	Tanzania-US Embassy	~453.59 (~1,000)	TNT

2000	USS Cole	362.87 (800)	Comp C-4
2002	Pakistan-US Consulate	~100 (222)	ANFO
2003	Saudi Arabia-US Residential Compound	3 cars ~200 (400), each	RDX
2003	Iraq-UN Headquarters	544.31 (1,200)	Military Grade
2003	Indonesia-Marriott hotel-regular venue for U.S. Embassy receptions	200 (440)	Included Potassium Chlorate
2003	Iraq-US Intelligence Headquarters	150 – 200 (300 – 440)	TNT

From this data it was determined that the largest Vehicle Borne Improvised Explosive Device used against the US was the 1996 US Military Barracks in Saudi Arabia attack which consisted of an estimated 20,000 lbs TNT equivalent. This also represents a reasonable upper bound for the amount of explosive that could be carried by a six wheeled truck. These are the types of vehicles used in historical and hypothesized future attacks.

**Comment:**

Many in New York City are suffering from respiratory problems related to the concrete dust ejected into the atmosphere after the World Trade Center attacks). The possible contamination resulting from the tested mediums (the stated purpose of the blasts in the first place) should be evaluated.

**Response:**

The total volume of material associated with the destruction of the World Trade Center is estimated at 1.7 million tons.

(<http://www.eshinc.com/portal/Company/SolutionsCaseStudies/WorldTradeCenterDebrisRecoveryProject/tabid/66/Default.aspx> ) Much of that material was steel, wallboard (sheetrock), insulation, and materials associated with office furniture. The exposure of individuals to that material was a result of their proximity to the site of the collapse, the volume of material and exposure over time. The testing proposed at the INL would involve a maximum of several hundred pounds of concrete in the form of concrete barriers, small quantities of metal in the form of fencing, cameras, sensors etc. and possibly some wall sections. The type of testing to be conducted would not result in the concrete barriers pulverized into fine particle sizes. In addition, the nearest inhabited off-site building is 13 miles away and the nearest INL facility is 7 miles away.

**Comment:**

Section 3.3 (p 21) The INL lands are the Shoshone-Bannock Tribes aboriginal lands. In the second sentence of first paragraph the word “...probably utilized...”should be change to did and continue to utilized this area.

**Response:**

The comment is noted and appreciated. However, it raises legal issues that are outside the scope of this EA. A sentence will be added directing readers of the EA to a website for further information – [www.shoshonebannocktribes.com](http://www.shoshonebannocktribes.com).

**Analysis Related - Flora and Fauna****Comments:**

The draft EA fails to address the impacts to the Shoshone-Bannock Tribes with respect to harm to big game and other fauna, in the short- and long-term, from impacts due to the high level noise events, soil erosion, and explosive residue contamination.

A great deal of environmental research is conducted in natural areas of INL. This proposal will endanger that research and existing wild animal populations.

The cumulative impacts from blasting, air emissions, noise and impacts to wildlife are not adequate in the EA.

The preferred alternative states that impacts will occur to wildlife. There are not adequate mitigation measures. More thorough analysis needs to be completed.

It was evident onsite that a hot wildfire occurred at this site; however due to the moist spring, restoration of native plants has occurred. In comparison on other lands on the INL, there are extremely high levels of non-native grasses, which make this immediate area unique in its native grass restoration.

Within the immediate project area, traditional medicinal plants was growing plentifully. In order to conduct this testing, mowing of the immediate area would be conducted, destroying medicinal plants. This removal of these plants is unacceptable.

No consideration was given to the biological footprint, including the migration routes, the winter range and habitat for big game, impacts to the small game, and native plants; all resources that do not contain themselves within any cartographic delineation.

Increased roads also affect the wildlife, as it impacts their behavior, leading to either avoidance or acclimation to humans

One of the missions of INL is environmental research, and this test range will compromise that research. Studies of coyotes, migrating birds, and the sagebrush steppe ecosystem will be affected. More generally, use of the proposed site will have significant impacts on native animals and plants, both from the explosions themselves and from the explosive ingredients left behind. Within or close to the proposed test range are deer, elk, antelope, small mammals (such as rabbits), snakes and other reptiles, sage grouse, falcons, hawks, and golden eagles. The human activity and frequent explosions will tend to drive away these creatures and may affect reproductive cycles.

The loss of vegetative cover resulting from explosive testing and road building associated with this project may result in water and wind erosion problems in the future. The DOE should consider a re-vegetative plan at the test site to ensure that native grasses, and other ethnobotanical plant species are preserved at the site.

Wildlife use and NERP environmental studies appear to be incompatible, with a test range approved for explosion of up to 20,000 lb TNT equivalent. Despite this fact, the draft EA does not provide detailed discussions, analyses, nor propose adequate mitigations for impacts. In Section 6.2.4 (Wildlife Impacts and Mitigation) impacts discussed are high level, such as “unavoidable loss”, and mitigations measures are equally general such as “seasonal timing of activities”.. The proposed test program calls for testing to occur during most work days between March and November This timeframe includes the same timeframe for nesting Of the Sage Grouse, Raptors, and Pygmy rabbits, and calving and fawning of Big Game. Stating that mitigations include seasonal timing of activities appears to be incompatible with the proposed program schedule. This EA needs to provide a thorough evaluation of impacts and a sincere and well thought out approach to mitigations.

There are still some concerns that the large explosive test may do harm to existing culture sites not only hear the testing range but away from this area as well. The *site* has been “quiet” for a number of years but now this activity will affect the surrounding areas ecosystem again. This will drive the various species of wildlife and upland game birds away from this area once more. The INL has been a safe refuge for big game and other species, as you may recall a number of years ago the antelope had invaded farms and feed-lots in the Mud Lake area and had to be driven off or exterminated, The activation of this range may create the same type of scenario that existed then.

There is also a concern of the sage grouse leks that are established in this area. They have been in this area due to non-disturbance but when the tests are conducted they may be driven off. In our opinion the tests will drive off all of the wildlife and birds in that area.

There is absent any evaluation of how much habitat will be removed due to the increased sound levels of the larger blasts and if they will impact animal species in question. One may ask, would the displacement of wildlife due to the loss of habitat far exceed the localized testing area?

Moreover, will the removal of this habitat affect migration of elk or other species. It seems only that various agency investigation and the information obtained through an EIS process could answer these questions.

In addition, fragmentation of wildlife habitat, plant communities and loss of ethnobotanical resources are a loss of and impact tribal cultural resources. What mitigation measures are available to the Tribes to lessen the loss of these natural resources

Additionally, the EA cites the presence of two rare species (Leopard Lizard and Whipsnake) which are absent from much of the INL site but are present at the proposed location for the test range. The proximity of the proposed test range to an active sage grouse lek and a confirmed nesting site for ferruginous hawks is also a concern to us.

The EA also reports that the preferred alternative will increase damage to these species and increase the possibility of noxious weeds increases, which in turn, may displace the ethnobotanical species of plants. The alternative selection process should be changed to include protection of the environment.

**Response:**

The EA identified the above cited impacts and also provides for a range of actions to reduce them. Table 1 in particular requires a number of measures to reduce prospective impacts. DOE must consider the context and intensity of the potential impacts and practices to reduce or eliminate those impacts before making a determination whether those impacts would be significant.

## **Analysis Related - Soil**

**Comments:**

The EA maintains that soil samples taken at the proposed test site are below the average Cs-137 levels across INL. How do the levels compare to other areas of Idaho? The draft EIS should detail why other radionuclides were not considered. How much dust will be resuspended by each type of test? Will any of the contemplated tests create craters?

A concern is the Cs- 137 that was detected from the soils sampled at the proposed site, during the initial surface explosive test will this become an airborne hazard for animals, birds and down-winders based on wind patterns?

**Response:**

World-wide fallout has been mapped across the Idaho and the United States by several surveys, all with similar results. Some of the results have been published by the Institute for Energy in Environmental Research ([www.ieer.org](http://www.ieer.org)). According to documents available from the IEER (<http://www.ieer.org/offdocs/csdepglo.pdf> ,

<http://www.ieer.org/offdocs/csdepnts.pdf> , and

[http://www.cdc.gov/nceh/radiation/fallout/feasibilitystudy/Technical\\_Vol\\_1\\_Chapter\\_3.pdf](http://www.cdc.gov/nceh/radiation/fallout/feasibilitystudy/Technical_Vol_1_Chapter_3.pdf)).

The background concentration of Cs-137 in this region of Idaho is approximately 2000-4000 Bequerel/square meter. Concentrations across the United States, from world-wide fallout, range from 0-13,000 Bequerel/square meter. The concentration of 2000-4000 Bequerel/square meter can be compared to the concentration found at the proposed site of the Explosives Test Range by assuming a depth of 1 cm, and a soil density of 1.3 grams/cubic centimeter.

$$1 \text{ square meter} = 100 \text{ cm} \times 100 \text{ cm} = 10,000 \text{ square centimeters (cm}^2\text{)}$$

$$10,000 \text{ cm}^2 \times 1 \text{ cm (soil sample depth)} = 10,000 \text{ cm}^3$$

$$10,000 \text{ cm}^3 \times 1.3 \text{ g/cm} = 13,000 \text{ grams of soil.}$$

$$1 \text{ curie} = 3.7\text{E}+10 \text{ radioactive decay/second.}$$

$$1 \text{ Bequerel} = 1 \text{ radioactive decay/second}$$

$$1 \text{ Bequerel} / 3.7\text{E}+10 = 2.7\text{E}-11 \text{ Bequerel/Ci}$$

$$1 \text{ picocurie (pCi)} = 1\text{E}-12 \text{ curies}$$

$$2.7\text{E}-11 / 1\text{E}-12 = \mathbf{27 \text{ pCi/Bequerel}}$$

$$2,000 \text{ Bequerel Cs-137/meter squared} \times 27 \text{ pCi/Bequerel} = 54,000 \text{ pCi/meter squared}$$

$$\text{From above: } 1 \text{ meter squared} = 13,000 \text{ grams of soil}$$

$$54,000 \text{ pCi} / 13,000 \text{ grams} = \mathbf{4.15 \text{ pCi Cs-137/gram of soil}}$$

The background value of Cs-137 measured at the proposed test site is approximately 0.22 pCi/gram averaged over the top six inches of soil. Assuming all of this was concentrated in the top 1 cm:

$$9 \text{ inches} \times 2.54 \text{ cm/inch} = 22.86 \text{ cm}$$

$$4.15 \text{ pCi} / 22.86 = \mathbf{0.18 \text{ pCi /Cs-137}}$$

The measured value of Cs-137 in soil at the proposed range of 0.22 pCi/gm agrees very well with the reported value. The conclusion is that dust suspended or transported during explosives tests will not spread radioactive contamination to surrounding areas. As a comparison, the background level of Cs-137 was recently measured in Denmark, it was 11-16 Bequerel/Kg soil (0.011 – 0.016 Bequerel/gram soil, equivalent to 0.3 – 0.4 pCi/gram) and was reported by the Project Group for Monitoring of Radioactive Substances in the Baltic Sea, June 2004 (see references). This value also agrees very closely to the values measured at the test range and estimated for the Idaho region.

Each test conducted on soil is expected to generate some degree of crater; those conducted on the proposed concrete pad are not expected to penetrate the concrete. The size of the craters will range

from less than 1 cubic meter for 100 lbs of TNT, to an estimated 436 cubic meters for 20,000 lbs of explosives.

Craters will be backfilled with the soil expelled around the rim of the crater. If this is not sufficient, additional soil from an existing INL fill site will be used.

Similarly, the amount of soil suspended by a test will be dependent on the location and size of the test. Testing performed on the concrete pad will not suspend soil in the air. Experience with past explosive work indicates that the vast majority of soil dust generated during an explosion will fall to earth within just a few seconds. Reference documents, including EPA's AP-42, based on work done in the mining and brick-making industries, state that up to 1.8 lb/ton of soil will be smaller in size, as small as PM-10, and will become windborne; this is documented in EDF-7147, referenced in the draft EA. Section 4.1.3 of the draft EA addresses this small fraction of the soil demonstrating compliance with the state and Federal PM-10 standard.

### **Comments:**

The draft EA does not detail how the test range will be cleaned up between explosions, let alone discuss final cleanup. The draft EIS should correct these shortfalls.

The most unrealistic aspect of this draft EA is the complete lack of discussion and review of the potential for contamination of the soils from the chemicals remaining from residual explosives.

The draft EA fails to recognize the strong possibility of contamination of the site by chemicals that are present in the explosives.

There is also the issue of additional costs associated with operating a site that may require future clean-up of radionuclide contaminated soils *mixed* with explosive residues, compared with other sites that may not have the large radionuclide emission inventory to contend with. The INL is one of the largest Superfund (CERCLA) sites in the United States because of past releases of radioactive contaminants, and it is still an operating nuclear facility. To select this site as a preferred alternative when detonating explosions that will certainly re-suspend soil contaminants into the air-shed ...makes no sense from a long-term risk standpoint or on a cost basis. It appears that DOE has used an unscientific bias toward selecting the preferred alternative.

DOE needs to expand significantly the clean-up plans for this proposed project and include them in the next phase of documentation. What residual chemicals are expected to remain (or be disbursed in the air-shed) after the explosions? How will DOE identify the contaminants of concern? How will DOE clean up after each detonation? Are there other federal facilities more experienced and equipped to handle these types of residual contaminants? How are the aforementioned questions addressed in the selection of alternatives and alternative sites? Will DOE restore the site to its original state, or simply clean-up to regulatory levels, which often results in the lands declared off-limit to the Tribes and public for decades?

The impacts of the detonations, when considering both the short- and long-term impacts may be significant. The draft EA has a serious deficit by not addressing the contamination to the



environment that will be caused by residual chemicals from the munitions and explosions. There is a need for a comprehensive program to be established to monitor and clean-up after each explosion. Unfortunately the draft EA has not explored this aspect of environmental risk in any way in spite of the high incidence of wide-spread contamination of these types of test sites across the United States.

The cumulative effects of blast contamination over time, seems to have been overlooked. On page 30 the EA states that there would be no storm water run-off to surface waters and that low adsorption rates would prevent the contamination of the SRPA. It would seem to me, that over time those accumulated contaminants must go somewhere; likely into the aquifer. At least as a precautionary measure, there should be some type of ongoing sampling regimen of the soils in and around the test site so that some mitigation could take place if or when elevated contamination levels are detected so as to prevent a future irreversible contamination scenario. However, the EA makes no provision for any testing of soils to ascertain future accumulations of possibly harmful materials.

**Response:**

Table 1 of the EA, in the section on Operational Controls lists a number of actions that are required to be performed to address residues. They include verifying that all explosive material has been consumed or removed after testing is performed; remove and dispose of test articles after testing is performed; perform soil sampling in the area for residue deposition/accumulation at least every five years.

**Comment:**

There is a section in the EA that discusses air quality contaminant issues, but not one that discusses soil/sediments. The Service recommends including information about the potential for soil/sediment contamination resulting from long-term use of the test range.

**Response:**

The most likely pathway for any explosive residue to affect human health or the environment is through surface or groundwater contamination. In Section 4.1.4, the EA describes the projected impacts to water quality. Table 1 describes the operational controls that would be put into place to prevent explosive residues from accumulating and prescribes soil sampling be performed at 5 year intervals to monitor soil conditions. If soils sampling reveals a build up of explosive residues that may pose a threat, appropriate clean up actions will be taken.

Table 1 of the EA has been modified as follows: Use ejected soils to refill any craters caused by testing. If ejected soils are insufficient, utilize additional backfill provided from on-site borrow areas.

**Comment:**

How much waste will be shipped off-site? What will be the costs?

**Response:**

Waste materials generated from testing are expected to be construction type waste and will be disposed of at the INL on-site industrial land fill. No waste is expected to be shipped or disposed of off-site.

**Analysis Related - Air**

**Comments:**

The draft EIS should include any correspondence between DOE and IDEQ that reveals a waiver of the [air quality] permit requirements, needs to be attached to the next phase of the NEPA process, or EIS.

The Draft EA refers to communication between DOE and Idaho DEQ staff regarding air quality compliance, but these communications are not provided in the document. Please add these important communications to the draft EIS.

**Response:**

The draft EA does not refer to any communication between DOE and Idaho DEQ staff regarding air quality compliance. Sections 3 and 6 of the draft EA do refer to regulations established by DEQ. There has been no communication between DOE and IDEQ regarding any waiver of any environmental law or regulation in relation to establishment and operation of the proposed test range.

**Comment:**

The draft EA focuses particularly on models that show how the proposed project will be compliant with the National Ambient Air Quality Standards (NAAQS). This is not enough.

**Response:**

All activities in the state of Idaho, unless specifically exempted, are required to comply with federal and state air emissions laws and regulations. As stated in the previous response, Test Range activities must comply with existing state and federal air quality requirements. Air quality models are a long established and accepted mechanism for demonstrating whether an activity will meet or not meet air quality standards.

**Comment:**

the standard for particulate matter (PM-10 and PM 2.5.) is a 24 hour standard, and so a short interval of very poor air quality –several hours for example– may present a health or environmental risk, yet not exceed the standard when measured over the full 24 hours.

**Response:**

Modeling of potential air pollutant was completed to meet environmental regulations, which, as the commenter points out, is based on a 24hr averaged standard for particulate matter. The model does provide useful information to determine the short-term concentrations. Worker exposure will be controlled through the established INL worker protection programs, and the dust plume would be largely dissipated before reaching the site boundary or nearest road where the general public would have potential for exposure. At the point where the public could be exposed to particulate matter from activities at the proposed test range, the 15 minute averaged concentration is less than 2 mg/m<sup>3</sup>. This is less than the OSHA respirable particulate matter concentration limit of 5 mg/m<sup>3</sup>. In addition the modeling is based on a conservative assumption that the entire clay fraction of the displaced soil will be of the regulated particle sizes. Based on the modeling and the conservative assumption, there should not be a significant health or environmental risk from the proposed test range activities.

**Comment:**

The Air Quality Regulations (Rules for the Control of Air Pollution in Idaho) IDAPA 58.01.01 include among other things, Visible Emission limits (Section 625), Excess Emissions, Fugitive Emission Controls, and General Rules. The following are the State of Idaho's Air Quality Rules that apply to DOE, and need to be included in the discussion and alternatives.

**Response:**

Activities and emissions at the INL are subject to a Title V permit issued by the IDEQ to the DOE and its contractors. Compliance provisions in the permit include sections on the subjects of Visible Emissions, Excess Emissions, Fugitive Dust, and General Rules. Any alternative in the draft EA that takes place at the INL must comply with the Title V permit and so additional discussion would not differentiate between alternatives unless one or more alternatives could not comply with a particular Permit requirement. The preferred alternative identified in the draft EA is expected to fully comply with Idaho regulations and the INL Title V permit.

**Comments:**

The Draft EA Did not adequately address the activities DOE will take to control excess emissions from the detonation. The application of dust suppressants to the road and work areas may not be sufficient to keep the project in compliance with Idaho Air Quality regulations. The draft EA fails to consider and discuss various ways that DOE could utilize to comply with the Idaho Air Quality Rules and prevent particulate matter from becoming airborne with this project, or to prevent

violations of the Visible Emission Standard. What steps, or alternatives, are possible to provide control of fugitive dust at the explosion site?

In both long and short-term the DOE should ensure that they continually comply with the Opacity and fugitive dust standard

The use of different methods to determine that DOE is in continual compliance with State Air Quality Rules on fugitive dust control needs to be discussed in the draft EIS or next phase of the NEPA process.

the DOE should adhere to the following excess Emission Section Idaho Regulations and revise the EIS to address this section

**Response:**

Activities that may generate air emissions are subject to state air regulations through provisions in the Title V permit, which echoes regulatory requirements on the topics of Opacity, Fugitive dust, and Excess emissions. The proposed test range would be subject to these requirements.

Table 1 in the draft EA identifies methods by which fugitive dust will be minimized. These include: 1) graveling sections of the road; 2) a speed limit of 15 mph on un-paved roads; 3) potential application of water or other dust suppressants. It is recognized that detonating large amounts of explosives will generate dust and that simply applying dust suppressant to the top of the soil will not eliminate all dust. However, based on the physical characteristics of the soil, including low clay content, it is believed that most particulate matter will fall to the earth within a very short time after the explosion. In addition, IDAPA 58.01.01.651 requires “all reasonable precautions” to prevent suspension of particulate matter. The distance of a source generating fugitive dust far from human habitations may be factor when identifying “all reasonable precautions”.

The state standard for Opacity states that 20% opacity may not be exceeded for more than 3 minutes in any 60 minute period. Experience at the INL, and other locations, indicates that suspended dust, from even the largest explosions, will rapidly settle to earth, meeting this standard.

Excess emissions occurs when emission limits for various contaminants, established in a permit, are exceeded. The proposed activity is subject to Title V permit limits for fugitive dust and opacity, but violation of these limits is not anticipated. The expected emissions from the proposed activity are below the levels that require a permit.

**Comment:**

The Shoshone-Bannock Tribes believe that a State air quality permit is required. If DOE has communicated to IDEQ, the large potential emissions from these detonations, a permit will be required.

**Response:**

General activities, as well as specific sources, at the INL are subject to a Title V air permit. The scope of the proposed work has been restricted, by limiting the types and amounts of explosives used, to levels and rates that would not require a Permit-To-Construct (PTC). The criteria for exemption from a PTC are identified in IDAPA 58.01.01.220-223

**Comments:**

The emissions from the proposed test range explosives will be significant, especially carbon monoxide, and particulate matter.

The estimated emissions exceed the threshold for a minor source permit and, depending on the number of explosions, they may exceed the Federal requirement for a Major Source Permit (Clean Air Act Title V, 40 CFR Part 70).

The alternative section of the draft EA should have included different scenarios for tonnages of explosions to be detonated and their associated annual emissions, regardless of the location, so that the issue of which air quality permit is required and what air quality controls will be imposed is resolved and documented in the next phase of the NEPA process.

**Response:**

The Explosive Test Range Project was evaluated for Permit to Construct requirements. IDAPA 58.01.01.220-223 allows for an exemption from the requirement to obtain a PTC. As demonstrated by the data in Tables 6 and 7 in the draft EA both the type and quantity of material proposed for use at the test range has been limited so the emissions meet the exemption requirement levels in IDAPA 58.01.01.220-223.

40 CFR 70 addresses the establishment of State Operating Permit Programs that are consistent with the Title V requirements of the Clean Air Act. The INL is a major facility as defined in IDAPA 58.01.01.008.10, and therefore sources on the INL comply with the requirements of the Title V permit.

**Comments:**

Another oversight related to the explosives is the emissions in the associated blasts.. The only chemical contaminants identified by the EA are in the explosives themselves (pg 30). There is no mention of possible contamination resulting from the tested mediums of those blasts, e.g. lead in car batteries, or mercury in a control switch. Tested mediums such as these would surely volatilize or scatter in a high temperature/pressure blast thus affecting air or water quality.

Additionally, the EA maintains that the ambient air limits measured as PM-10 or less would not be exceeded based upon the amount of soil disturbed by the blast (pg 28). One may ask if those limits would be exceeded if the tested medium particulates were added to the soil particulates. Should the

test include a building or large structure using drywall, concrete block, etc., the amounts of particulate will surely be elevated above that of simply the soil disturbance itself,

**Response:**

Section 2.1.2 of the draft EA states that all fluids and tires will be removed from test vehicles. Removal of fluids includes crankcase and transmission oils, coolants, other liquid lubricants, refrigerants, as well as batteries and mercury switches. Tires will be removed to prevent fires. A requirement to remove batteries and mercury switches has been added to the EA in Table 1 and to Section 2.1.2.

Other materials that might be tested are exemplified by concrete, steel, and other metals. Drywall and other friable materials are not expected to be used. Experience indicates that less than 1% of concrete, and far less than that of metals, may become dust, even during very large tests. These quantities are not significant when compared to the emissions from the explosives and cratering.

**Comment:**

There are no stated air quality monitoring techniques in place to monitor the air quality? Concern for impact to air quality is real. Craters of Moon have Class I air how will air quality be monitor to protect their air quality?

**Response:**

Emissions limitations are established by limiting the amount and type of explosives used. In addition, all activities at the proposed test range will be conducted in compliance with the INL Title V permit. These restrictions are expected to preserve the existing air quality at off-site locations without additional monitoring.

## **Analysis Related - Water**

**Comment:**

Page 31. 4.1.4.2 Ground Water – The studies need to be sent to the Tribes for review as impacts to the ground water are an immediate concern.

**Response:**

The studies are identified in the EA as “*Comprehensive Remedial Investigation Feasibility Study (RI/FS) for Waste Area Group 6 (WAG-6) and Waste Area Group 10 (WAG-10) Operable Unit (OU) 10-04, DOE-ID-10807*”. The studies are available to the public at:

[http://ar.inel.gov/owa/search\\_by\\_cercla\\_2?cerclatype=RIFS](http://ar.inel.gov/owa/search_by_cercla_2?cerclatype=RIFS).

**Comment:**

The EA asserts that the SRPA will be unaffected by the concussion of a proposed 20,000 lb NEW blast. They reason that the interspersed layers of basalt rock and soil will protect the 350' deep aquifer (pg 23). However, I question if the concussion may cause the release of contaminated underground water sources into the SRPA currently under the INL termed as perched water. This contaminated perched water source lay upon impermeable strata closer to the ground's surface above the aquifer. Could a blast from 20 tons of explosives fracture the layers that currently keep the contaminated perched water sequestered? The EA gives no discussion, thus there should be some geological investigation to ensure that the aquifer would indeed remain un-impacted by such large explosions.

**Response:**

Sources of contaminated perched water at the INL are located at operating facilities. Studies, as discussed in the draft EA (Weathersby, J.H., 2006, "*Ground Motion and Noise Levels at Critical Locations On and Near the Idaho National Laboratory Site Due to Explosive Activities at the National and Homeland Security Research and Development Range.*" INL/EXT -06-11753, October, 2006) and summarized in Table 3 of the EA, have shown that the expected ground motion/disturbance at INL facilities, from the largest test at the proposed test range, to be far below that which would be expected to cause any change in geologic perched water confinement systems.

**Comment:**

Section 3.5.2 (p 23) The Snake River Plain Aquifer is a significant cultural resource if there are no known wells in this preferred alternative location how will ground water be monitored for contamination from activities at the test range?

**Response:**

Rather than drill a new well and conduct routine groundwater monitoring, the project will prevent groundwater contamination by routine monitoring, and cleanup, as required, of surface soil that may become contaminated with explosive residues and by-products, as discussed in Table 1 in the draft EA. In addition, monitoring wells do exist in a down gradient direction from the test range site. These wells are subject to routine sampling and this sampling data will be monitored to determine if any contaminants were to reach the SRPA.

**Analysis Related - Cultural Protection**

**Comment:**

Adequate mitigations were not presented as to any inadvertent discoveries and the Shoshone-Bannock Tribes interests

**Response:**

Under DOE-ID's Agreement in Principle (AIP) with the Shoshone-Bannock Tribes, notifications are made to the DOE Tribal Program and Heritage Tribal Office in the event of any inadvertent discoveries of cultural materials. The AIP also invites tribal participation in archaeological fieldwork, which included the archaeological surveys completed in advance of the project as well as any future monitoring or additional survey. The DOE will continue open communication between DOE-ID/INL Cultural Resource Management Office and the Shoshone-Bannock Tribes.

**Comment:**

Page 21 3.3 Historical/Cultural Resources, Paragraph 1, Sentence 7-This sentence should include language referring to the fact that there were no CR laws that required surveys which would protect CR in the test areas, therefore at the time it was thought to be "well suited".

**Response:**

The text of the EA has been modified: "Members of the Shoshone-Bannock Tribes today continue to value a variety of resources and settings found on INL lands, including the thousands of prehistoric archaeological sites located there, further information can be obtained at [www.shoshonebannocktribes.com](http://www.shoshonebannocktribes.com). Historic archaeological sites are also numerous, reflecting use by emigrants who began to pass through the area along a northern spur of the Oregon Trail (Goodale's Cutoff) by 150 years ago. Soon thereafter, early homesteaders sought to harness the intermittent flows of the Big Lost River and transform sagebrush flats into green pastures, but few were successful. During World War II, lands once inhabited by Native Americans and homesteaders were designated as a Naval Proving Ground in support of the war effort."

**Comments:**

Page 27. 4.1.2 Historical/Cultural Resources, Paragraph 1-The second to last sentence reads, "...placing gravel over the artifact to preserve it as much as possible." This portion of the sentence will not work. If gravel was place over any artifact, it would still be destroyed by the constant driving over the area covered. The pressure of the vehicles would cause the gravel to crush/destroy the artifact. NOT A GOOD SUGGESTION.

Section 4.1.2 (p 28) Table 5 Potentially impacted cultural resource sites identifies several archaeological sites will be adversely affected if ground disturbance occurs with the upgrade in T-25 road upgrade. How do you avoid ground disturbance on road construction? If these sites are impacted due to construction what mitigation measures are available to the Tribes beyond data recovery?

**Response:**

Gravel will only be employed within tire ruts in existing roads leading to the project area, particularly in low muddy areas. It will not be intentionally placed over artifacts. However artifacts



situated along the roads would be protected from further impact if vehicles are able to stay within the defined roadway instead of skirting out into undisturbed lands to avoid low muddy spots.

The text of the draft EA has been changed as follows: “Any artifacts that would be discovered during the construction of the range would be preserved by altering the route of the new road or moving the construction zone. Gravel would be used to improve the existing T-25 access road. Any artifacts found in the road-bed would be mapped and relocated to prevent impact. Sections 3.1.4 and 3.1.5 discuss the distribution of plant and animal species in the proposed test range area and their abundance in the test range as compared to the rest of the INL site. .”

**Comment:**

Page 27, Section 4.1.2. 1<sup>st</sup> paragraph. The last sentence, the word "could" needs to be replaced with "will be or would be".

**Response:**

The abundance of plant and animal species at the test range site is similar to other locations at the INL site and there are no unique species to this location. The section has been revised by adding the following in lieu of the last sentence to Section 4.1.2: “Sections 3.1.4 and 3.1.5 discuss the distribution of plant and animal species in the proposed test range area and their abundance in the test range area as compared to the rest of the INL site. While there could be loss of plants of ethnobotanical importance losses would be localized.”

**Comments:**

The Shoshone-Bannock Tribes’ Air Quality Department contends that DOE’s effort to propose the INL as a “preferred alternative” considering it’s large inventory of cultural resources is wrong because, among other things, there are other federal lands, much less likely to contain these important cultural resources. The DOE has inappropriately left out this consideration, when ranking alternative sites for this project

**Response:**

Alternatives are selected based on the criteria by which they can reasonably meet DOE’s need. Then the impacts, including those to cultural resources, of the proposed activity on the environments are assessed. The EA incorporates actions to minimize impacts to cultural resources.

**Comment:**

Has there been a culture survey done on all of the proposed construction activities on this site?

**Response:**

As indicated in Table 1, the range safety fan has not been surveyed for cultural resources. This survey will be completed in advance of construction to identify resources for avoidance when personnel must enter the fan to retrieve debris.